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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,537

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Hitoshi Hagimori

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EXAMINER

DINH, JACK

ART UNIT

PAPER NUMBER

2873

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/649,537

Applicant(s)

HAGIMORI ET AL.

Examiner

Jack Dinh

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8,10,11,14-18 is/are rejected.
- 7) ☒ Claim(s) 2,3,12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: DETAILED ACTION.

DETAILED ACTION

Election/Restrictions

1. Applicant's election in the reply filed on 09/18/06 is acknowledged. However, upon reconsideration, the previous restriction mailed on 08/14/06 is withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7 and 17, the phrase "positive lens unit" lacks antecedent basis. Since neither lens unit has been defined as "positive lens unit", it is unclear of the configuration being claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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3. Claims 11 and 14 are rejected under 35 U.S.C. 102(a) as being unpatentable by Enomoto (US Patent 6,721,107).

Regarding claim 11, Enomoto (figure 1) is interpreted as disclosing a zoom lens system comprising, from an object side a first lens unit, a second lens unit, and a third lens unit, wherein the following condition is satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition.

Regarding claim 14, Enomoto is interpreted as further disclosing wherein the first lens unit consists of a single negative lens element, and wherein the following condition is satisfied: $v_1 > 45$ (col. 11, lines 60-65), wherein v_1 is the Abbe number of the single negative lens element.

4. Claims 15, 16 and 18 are rejected under 35 U.S.C. 102(a) as being unpatentable by Estelle (US Patent 5,991,096).

Regarding claim 15, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens system comprising, from an object side a first lens unit **U1**, a second lens unit **U2**, and a third lens unit **U3**, wherein the following condition is satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein

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the first lens unit moves so as to draw a locus of a U-turn convex to the image side in zooming from the shortest focal length condition to the longest focal length condition.

Regarding claim 16, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens system comprising, from an object side a first lens unit **U1**, a second lens unit **U2**, and a third lens unit **U3**, wherein the following condition is satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein the first lens unit includes at least one aspherical surface (col. 4, lines 6-10).

Regarding claim 18, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens system comprising, from an object side a first lens unit **U1**, a second lens unit **U2**, and a third lens unit **U3**, wherein the following condition is satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein the third lens unit has a positive optical power.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enomoto (US Patent 6,721,107) in view of the Applicant's Admitted Prior Art (AAPA, specification).

Regarding claim 1, Enomoto (figure 1) is interpreted as disclosing a zoom lens device comprising a zoom lens system having a plurality of lens units 10, 20, 30, wherein lens surfaces constituting the zoom lens system are all refracting surfaces, wherein zooming is performed by varying the distances between the lens units, and wherein following conditions are satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition. Enomoto discloses all the claimed limitations except for an image sensor formed by the zoom lens system. Within the same field of endeavor, the AAPA is interpreted as further disclosing the use of image sensors formed by the zoom lens system (specification, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an image sensor for the purpose of converting the image formed by the zoom lens into electric image data.

Regarding claim 4, Enomoto is interpreted as further disclosing wherein the first lens unit consists of a single negative lens element, and wherein the following condition is satisfied: $v_1 > 45$ (col. 11, lines 60-65), wherein v_1 is the Abbe number of the single negative lens element.

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Regarding claim 10, Enomoto (figure 1) is interpreted as disclosing a digital camera comprising a zoom lens device including a zoom lens system, the zoom lens system having a plurality of lens units including a first lens unit disposed on the most object side and consisting of a single negative lens element, and wherein lens surfaces constituting the zoom lens system are all refracting surfaces, wherein zooming is performed by varying the distances between the lens units, and wherein following conditions are satisfied: $3.1 \leq f_t/f_w \leq 5.5$ (col. 12, line 40), wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition. Enomoto discloses all the claimed limitations except for an image sensor formed by the zoom lens system. Within the same field of endeavor, the AAPA is interpreted as further disclosing the use of image sensors formed by the zoom lens system (specification, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an image sensor for the purpose of converting the image formed by the zoom lens into electric image data.

6. Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estelle (US Patent 5,991,096) in view of the Applicant's Admitted Prior Art (AAPA, specification).

Regarding claim 5, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens device comprising a zoom lens system having a plurality of lens units **U1**, **U2**, **U3**, wherein lens surfaces constituting the zoom lens system are all refracting surfaces, wherein zooming is performed by varying the distances between the lens units, and wherein following

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conditions are satisfied: $3.1 \leq f_t/f_w \leq 5.5$, wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein the plurality of lens units includes a first lens unit at a most object side of the plurality of lens units and wherein the first lens unit moves so as to draw a locus of a U-turn convex to the image side in zooming from the shortest focal length condition to the longest focal length condition. Enomoto discloses all the claimed limitations except for an image sensor formed by the zoom lens system. Within the same field of endeavor, the AAPA is interpreted as further disclosing the use of image sensors formed by the zoom lens system (specification, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an image sensor for the purpose of converting the image formed by the zoom lens into electric image data.

Regarding claim 6, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens device comprising a zoom lens system having a plurality of lens units U1, U2, U3, wherein lens surfaces constituting the zoom lens system are all refracting surfaces, wherein zooming is performed by varying the distances between the lens units, and wherein following conditions are satisfied: $3.1 \leq f_t/f_w \leq 5.5$, wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein the plurality of lens units includes a first lens unit at a most object side of the plurality of lens units and wherein the first lens unit includes at least one aspherical surface (col. 4, lines 6-10). Enomoto discloses all the claimed limitations except for an image sensor formed by the zoom lens system. Within the same field of endeavor, the AAPA

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is interpreted as further disclosing the use of image sensors formed by the zoom lens system (specification, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an image sensor for the purpose of converting the image formed by the zoom lens into electric image data.

Claims 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Estelle (US Patent 5,991,096) in view of the Applicant's Admitted Prior Art (AAPA, specification).

Regarding claim 8, Estelle (figure 1; col. 2, lines 25-36) is interpreted as disclosing a zoom lens device comprising a zoom lens system having a plurality of lens units **U1**, **U2**, **U3**, wherein lens surfaces constituting the zoom lens system are all refracting surfaces, wherein zooming is performed by varying the distances between the lens units, and wherein following conditions are satisfied: $3.1 \leq f_t/f_w \leq 5.5$, wherein f_w is the focal length of the zoom lens system in the shortest focal length condition, and f_t is the focal length of the zoom lens system in the longest focal length condition, wherein the zoom lens system consists of, from the object side a first lens unit, a second unit, and a third lens **U3** unit having a positive optical power. Enomoto discloses all the claimed limitations except for an image sensor formed by the zoom lens system. Within the same field of endeavor, the AAPA is interpreted as further disclosing the use of image sensors formed by the zoom lens system (specification, paragraph 0003). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an image sensor for the purpose of converting the image formed by the zoom lens into electric image data.

Allowable Subject Matter

7. Claims 2, 3, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 2 and 12, the prior art fails to disclose the condition $0.1 < T_{23w/fw} < 1.5$. Regarding claims 3 and 13, the prior art fails to disclose the condition $0.6 < T_{sum/fw} < 2.6$.

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Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is 571-272-2327. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L. Mack, can be reached at 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jack Dinh
01/18/07


RICKY MACK
SUPERVISORY PATENT EXAMINER